APPENDIX A [Brooklyn]

SYSTEM CHARACTERISTICS AND TECHNICAL PERFORMANCE/TESTING REQUIREMENTS

APPENDIX A

I. SYSTEM CHARACTERISTICS

A. Technical Features

1. Headend/Hub Design and Intrasystem Interconnection. The System may contain one or more headends/hubs/satellite earth stations/office/maintenance complex(es). Each headend and hub(s) will have Downstream and Upstream capability and all equipment necessary to provide Two-way services and intrasystem and intersystem interconnection.

2. System Bandwidth and Access Connectivity. The basic plant for the System will consist of a Subscriber Network with one or more coaxial or fiber optic cables. The System shall be a fully activated Two-way network.

   a. At the completion of the Upgrade (as defined in and in accordance with the terms, schedule and sequence as set forth in Appendix B of this Agreement), the Subscriber Network will have activated Upstream bandwidth of at least 35 MHz, and total activated Downstream bandwidth of at least 800 MHz. The Company presently intends to achieve this capacity for the Subscriber Network through the use of a hybrid-fiber-coax (HFC) architecture system, providing for 5-40 MHz Upstream and 54-862 MHz Downstream.

3. Within nine (9) months after request by the Commissioner, or such longer period as the Commissioner may authorize, the Company shall interconnect, with the appropriate capacity to transmit simultaneously all of the Governmental Channels via transmission paths equal in number to the number of Governmental Channels, the Governmental distribution center to the Company's head-end, and (2) interconnect, via one (1) transmission path for each Governmental production/studio facility, each Governmental production/studio facility up to a maximum of three facilities citywide to the Governmental

distribution center; and (ii) Within nine (9) months after request by the Commissioner, in consultation with the Community Access Organization (CAO), or such longer period as the Commissioner may authorize, the Company shall: (1) interconnect, via transmission paths equal in number to the number of Public Channels, the CAO distribution center to the Company's head-end, (2) interconnect, via one (1) transmission path, the primary CAO production/studio facility to the CAO distribution center, (3) interconnect, via one (1) transmission path for each remote CAO production/studio facility, each such remote CAO production/studio facility to the CAO distribution center, except that the maximum aggregate length of the interconnections that the Company shall be required to provide shall not exceed four (4) City blocks for the Borough in which the CAO operates. These dedicated paths shall be on fiber optic cables employing wide band FM or digital transmission characteristics and providing performance quality for video and stereo audio Signals which is effectively transparent except that the technological specifications herein shall not apply to transmission paths for collocated facilities that were provided on coaxial cable as of the Effective Date of this Agreement.

4. Interconnection If Number of Access Channels Changes. If the number of Access Channels on the Subscriber Network changes, the Company shall interconnect such additional Channel(s) from the Access Channel distribution center(s) to the Company's head-end(s) and shall provide other interconnection(s) as required by Section 4.1.03 of this Agreement.

5. Interactive Capability. The System will be activated for Two-way capabilities and will offer Two-way interactive services as they become Economically and Technically Feasible and Viable.

6. Emergency Alert Systems (EAS). The Company shall comply with Section 4.4.02 of this Agreement, provide appropriate connectivity for the City to transmit emergency alerts using any EAS equipment required by

applicable law, and, upon request of the Commissioner, meet with representatives designated by the City to establish emergency alert plans and procedures.

7. Standby Power. Where installed, all amplifiers and power supplies related to the coaxial trunk lines of the Subscriber Network will have standby power supplies capable of at least three (3) hours of standby operations. The headend(s) and hubs will have automatic switchover engine-generated standby power, capable of powering all headend/hub electronics for a minimum of twenty-four (24) hours, except where prohibited by lease or regulation, in which case the headend(s) and hubs will be equipped with such standby power capability as is permissible and reasonably practicable. The Company shall follow the standby power provisions of the Engineering Analysis and System Architecture (EASA) plan as set forth in III of this Appendix A.

8. Status Monitoring. Where previously installed, a status monitoring system will continually and automatically monitor the performance of all amplifiers and power supplies related to the trunk lines of the Subscriber Network. The Company will monitor the status of its trunk line amplifier system to the fullest extent possible given the reporting capability of status monitoring equipment. The Company shall follow the EASA upgrade plan submitted with regard to status monitoring. Trunk lines will be replaced by fiber extending to node locations and therefore status monitoring may only be needed to monitor node activity.

9. Parental Control Options. Each Subscriber will be supplied a method for exercising parental control as provided in Section I.D. of this Appendix A.

10. Service Delivery Techniques. The Subscriber Network shall be addressable. Addressable converters or other State-of-the-Art addressable technology allowing for changes in service configurations without interruption of Service or the need to enter any Subscriber's premises will be utilized in the System and provided by the

Company to any Subscriber who subscribes to any Service requiring such a device.

11. Interconnection. The System will be interconnected to other Cable Communications Systems in accordance with the terms and conditions of this Agreement. As part of the Upgrade the Company shall change the technology used for interconnection to digital transmission to reduce the degradation of audio, stereo, surround sound, and video transmissions. The completion of the change to digital interconnection transmission shall be concurrent with completion of the Upgrade of the cable systems.

B. Service Capability

1. Services of the Subscriber Network

a. Local and Distant Off-the-Air Signals

The System will be capable of providing local off-the-air broadcast Signals.

b.

c. Automated Services

The System will be capable of providing automated information services.

d. Public, Educational and Governmental Access Channels

The Company will provide these Channels in accordance with Section 4.1 of this Agreement.

e. Local Cultural, Local News, Local Sports, Local Children's Programming and Other Categories of Local Origination Programming

The System will have the capability to provide local origination programming.

e. Nonpay Satellite or Microwave Programming Services

The System will have the capability to provide nonpay satellite or microwave programming services.

f. Cable Programming Services

The System will have the capability to provide cable programming services.

g. Pay Services

The System will be capable of offering pay services.

h. Leased Services

Leased Channels shall be provided in accordance with Section 3.7 of this Agreement.

i. Interactive Services

The Company will facilitate the development of interactive Services for the Subscriber Network.

j. Services for Physically Challenged Persons

The Company will comply with the obligations for Physically Challenged Persons set forth in Section 4.4.01 of this Agreement. The Company shall make available to Subscribers on Medicaid who are Physically Challenged remote control devices at a price not exceeding the Company's cost therefor.

k. Services for Senior Citizens

The Company will develop means of making its equipment easier for Senior Citizens to use. At a minimum, the Company will supply Subscribers who are Senior Citizens on Medicaid with remote control devices at a price not exceeding the Company's cost therefor.

l. Other

Nothing contained in this Appendix A or elsewhere in this Agreement shall be construed as a requirement that the Company provide any specific or broad category of programming.

2. The Institutional Network

The Institutional Network shall be established as provided in Appendix E to this Agreement.

C. Production Facilities

The Company will make available to the Community Access Organization and to the City the public, educational and governmental access facilities and equipment or capital grants specified in Appendices D and E to this Agreement.

D. Parental Control Devices

At the Subscriber's request, the Company shall provide to each Subscriber either (i) within twenty-four (24) hours of a Subscriber's written or oral request, a parental control device, or the form of a converter with a parental control feature; or (ii) within a reasonable time after the request, a filter, trap or similar system by which the Subscriber can prohibit viewing of a particular Cable Service during periods selected by that Subscriber. The choice of (i) or (ii) shall rest with the Company.

I. PERFORMANCE AND TESTING REQUIREMENTS

II. Performance Standards

1. General

The System shall be constructed, operated, maintained and upgraded, as a State-of-the-Art Cable Communications System consistent with the obligations of Section 3 of this Agreement. The Company shall strive to attain the best possible technical performance for the System, consistent with such sound engineering practices as are Economically and Technically Feasible and Viable.

At a minimum, throughout the term of the franchise, the System shall be designed and operated so as to meet all applicable technical performance standards, regulations and guidelines.

2. Signals/Channels

For purposes of this Agreement, initially and until such time as the City and the Company otherwise agree, the spectrum capacity of each type of Channel utilized on the System shall be as follows:

a. Analog Video Channel -- 6 MHz provided in analog form, which shall include both the visual and aural carriers and corresponding side bands that constitute the picture and sound of a television program;

b. Audio Channel -- an FM audio Signal occupying 200 kHz of bandwidth, with 400 kHz spacing, the Signal strength of which shall not exceed that of the audio subcarrier of the nearest Video Channel nor be less than -16 dBmV at the receiver terminals (reference O dBmV equals 1,000 microvolts across 75 ohms) or an equivalent audio Signal utilizing an appropriate modulation technique so as to render the quality of the Signal no less than that of an FM audio Signal;

c. Data Channel -- a band of frequencies to be determined by the interface devices used to translate the Data Signal; usually 3 kHz to 6 MHz depending upon speed of data transmission. (In some cases, the bandwidth may exceed 6 MHz.)

All Signals distributed over the System, shall conform to the performance standards set forth in II.A.3. of this Appendix A.

3. Performance Standards

The performance standards, including design and operating standards, for the System are those that have been established by the FCC and the standards contained in the Company's EASA plan as set forth in III of this Appendix A, which are contained in Exhibit 1 to this Appendix A. Prior to the provision of digital service, the technical specifications for such service shall be approved by the Commissioner, such approval not to be unreasonably withheld or delayed.

A. Testing

1. Testing Procedures

The Commissioner shall, after consultation with the Company, establish reasonable procedures for testing the technical performance of the System in accordance with all applicable technical performance standards, regulations and guidelines. Such procedures shall include both the initial proof-of-performance tests for any upgrade of the System and periodic tests of the System and shall be consistent with the testing considerations set forth in II.B.2. of this Appendix A.

2. Testing Considerations

a. General

The tests to be conducted of the technical performance of the System shall be designed to ensure compliance by the Company with all applicable performance standards. With respect to the performance standards that are set forth in Exhibit 1 to this Appendix A, the design standards shall apply to the design of the System and compliance with these standards will be evaluated in connection with the Company's EASA plan as set forth in III of this Appendix A.

The design/operating standards will be used in connection with the periodic operating tests of the System throughout the term of this Agreement, which at a minimum will occur: (i) following construction of the Upgrade (or any subsequent upgrade) of the System; (ii) semiannually, during the extremes of climate conditions (summer and winter), and (iii) at periodic intervals as

established in the testing procedures based upon factors such as number or location of Subscriber complaints regarding reception problems.

The Company shall give the Commissioner prior notice of any such test to be conducted by the Company pursuant to this Section II.B.2.a of this Appendix A so that the City may arrange to have an engineer present. The failure of City personnel to attend any test shall not relieve the Company of its obligation to conduct any test. The Company shall also make available to the engineer(s) designated by the Commissioner the mobile testing facilities required by Section 6.11.04 of this Agreement to enable the City to conduct tests of the technical performance of the System. The mobile testing vehicle and equipment will be made available from time to time upon the request of the engineer(s) designated by the Commissioner; such vehicle and equipment necessary to perform all tests occasioned by Subscriber complaints shall be made available upon twenty four (24) hours' notice when such tests are required in response to Subscriber complaints; and such vehicle together with all equipment specified by such engineer(s) from among the equipment listed in Exhibit 2 to this Appendix A shall be made available on the next business day after request by such engineer(s) for all other tests deemed necessary or appropriate by the Commissioner. All such tests at the City's request will be conducted by the Company's personnel with the City's engineer(s) present.

b. Compliance with Design Standards

In the event of the Company's failure to meet the design standards, either in connection with the Engineering Analysis and System Architecture plan as described in III of this Appendix A, or any initial proof-of-performance test (or equivalent test, as described above) in any area, the Company shall take immediate corrective action either: (i) prior to construction, in the case of a design failure; or (ii) as a condition to continued operation of the System in any area, in the case of a failure of any initial proof-of-performance test (or equivalent test, as described above).

c. Failure to Comply with Operating Standards

The Company's failure to meet the operating standards on any one occasion in connection with any test of the System will not subject the Company to any breach under this Agreement, but will obligate the Company to undertake immediate corrective action, as described below. Substantial failure to pass operating tests or repeated refusal to take corrective action in the event

of such failures shall constitute a material breach of this Agreement, as provided in Section 14.4.02(ii) of this Agreement.

If the System meets the operating standards on all Channels at the time of any test, no further action by the Company will be required. If the System fails to meet one or more of the operating standards at the time of any test, the Company will immediately investigate the cause of such failure and, to the extent such cause is within the Company's control, the Company shall correct such cause within thirty (30) days, provided that such thirty (30) day correction period shall be extended on a day-to-day basis during the period in which the Company is diligently and continuously correcting such cause to the satisfaction of the Commissioner. At the conclusion of said period, an additional test will be conducted to determine whether the corrective actions have brought the System into compliance with the operating standards.

In the event of a failure to meet the operating standards on any Channel at the time of any test, the Company will be permitted to show that such failure was due to circumstances beyond its control; for example, due to the quality of received Signals or tapes prepared by Persons other than the Company or the quality of any converter or other terminal device attached to a Subscriber's television which was not supplied by the Company or any Affiliated Person. A reasonable determination will be made by the Commissioner, in consultation with the Company, as to whether the failure to meet the operating standards on any Channel was due to circumstances beyond the Company's control, provided that, if a City engineer is present at the time of the test and such engineer determines that such failure is solely due to circumstances beyond the Company's control, no further action by the Company will be required. If the failure was due to circumstances beyond the Company's control, the Company will not be required to take further steps with respect to the failure, but may take such corrective action it deems appropriate to overcome the problem. If the failure was due to circumstances within the Company's control, the Company will correct the failure, after which an additional test will be conducted.

3. Mobile Testing Capability

In order to enable the Company to test the performance of the System to perform in accordance with Exhibit 1 to this Appendix A, the Company shall secure and continuously maintain: (i) all necessary testing and monitoring equipment specified in Exhibit 2 to this Appendix A to this Agreement, or its equivalent; (ii) any other equipment necessary to monitor the performance of the System as may be specified by the Commissioner; and (iii) a mobile testing vehicle capable of containing and having all such equipment installed therein promptly, and which shall be used for the purpose of such tests.

B. Modifications

If requested by the City or the Company, representatives of the City and the Company will meet to consider revisions to the performance standards and testing procedures.

III. ENGINEERING ANALYSIS AND SYSTEM ARCHITECTURE (EASA)

A. Purpose

The Engineering Analysis and System Architecture (EASA) shall ensure that, as constructed and operated pursuant to the Upgrade, the System shall be able to provide the capacity and Services required by this Agreement in a manner consistent with the applicable performance standards.

B. EASA Plan

The Upgrade shall conform to the Engineering Analysis and System Architecture plan (EASA plan) pursuant to this Section III.B. of this Appendix A. As provided in Section 6.1 of this Agreement, the EASA plan, which shall contain the construction schedule as set forth in Section II of Appendix B of this Agreement, shall be approved by and filed with the City on or before June 30, 1999, or such other date(s) as may be otherwise required pursuant to 9 NYCRR §595.1, and shall be attached hereto as Exhibit 3 and incorporated herein and made a part of this Agreement.

The version of the EASA plan and all subsequent additions or modifications to such version, as accepted by the Commissioner, shall be set forth as Exhibit 3 to this Appendix A and shall be incorporated herein and made

a part of this Agreement. All material modifications thereto shall be subject to the approval of the Commissioner. Prior to any material deviation by the Company in design or characteristics of the System from those set forth in the EASA plan, the Company shall submit to the Commissioner a description of the proposed deviation and the justification thereof, together with any additional information as may be reasonably specified by the Commissioner.

C. Contents

The version of the EASA plan shall contain, at a minimum:

1. A description of the design philosophy and principal assumptions for the System;

2. A listing of all operating margins for the upgraded System over the full temperature range to meet the applicable performance standards;

3. A description of all steps to be taken by the Company to ensure System reliability and to protect against failures to meet the performance standards (in lieu of a full reliability analysis);

4. A description of all channeling plans and switching systems to be utilized, together with the proposed assignment, (both Dial Location and spectrum allocation), of all Channels on the Subscriber Network;

5. All information necessary to comply with applicable local laws, rules, or regulations, including, without limitation, all environmental review requirements; and

6. The System Architecture, which shall include, at a minimum:

a. a block diagram of all principal sections of the System (e.g., headends, hubs, distribution plant, and optical electronics) showing the function and interconnection of all principal equipment to be utilized;[1]

[1] To the extent that specific equipment has been selected, the Engineering Analysis and System Architecture should list the manufacturer and model of said equipment. Otherwise, such information should be supplied when the actual equipment is selected. To the extent that the Company has provided a list of the specific equipment to be utilized, the Company may thereafter change said equipment upon written notice to the Commissioner

Footnote continued on next page

b. design maps for all principal sections of the System, including:

-- the headend(s)

-- hubs

-- nodes

-- trunk cables

-- feeder cables

-- proposed studios and other production facilities, and

-- antennas, microwave towers, and satellite earth stations and uplink; and

c. the detailed plan for the sequence of construction of the System, as required in Section 6.1 of this Agreement.

Throughout construction of the System pursuant to the Upgrade and any other upgrade of the System, as requested by the Commissioner, the Company must submit actual "as built" maps as the Upgrade proceeds.

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demonstrating that the performance quality of the new equipment will not be less than that of the equipment for which it is being substituted.

PERFORMANCE STANDARDS

EQUIPMENT FOR MOBILE TESTING CAPABILITY

MOBILE TESTING CAPABILITY

EQUIPMENT-MODEL[1]	USAGE
Tektronix/HP Spectrum Analyzer	Distortion measurements
Computer/Printer	Documentation and printing of data
Rohde & Schwartz Demodulator	Demodulate rf to test video
TV Monitor/Receiver	Analyze video
Signal level meter	To measure signal level
Signal leakage detection system	To measure signal leakage (FCC CLI)
Tektronix VM 700/A video and audio measurement test set (including VITS generator and audio generator).	To test video and audio parameters
Band Pass Filters	To filter channels being tested
Switchable	To adjust level of

[1] The Company shall be entitled to substitute a piece of equipment, if any is available, which is equivalent to the foregoing equipment to the extent that such alternative equipment possesses features which, to the satisfaction of the Commissioner, are sufficient to measure fully each of the applicable parameters set forth in Exhibit 1 to this Appendix A.

Attenuators	signal being tested
Tools, cables, misc.	
Mobile Vehicle	

ENGINEERING ANALYSIS AND SYSTEM ARCHITECTURE

[TO BE INSERTED UPON APPROVAL
BY THE COMMISSIONER.]

EXHIBIT 3
TO APPENDIX A